and/or] chromosome 17 in humans, said method compfising contacting said chromosomal material with a high complexity nucleic acid probe wherein at least one component of the high complexity nucleic acid probe is targeted to a paracentromeric-specific nucleic acid segment, allowing said probe to bind to said targeted chromosomal material and detecting said bound probe, wherein bound probe is indicative of the presence of target chromosomal material.

48. (Amended) A method of staining targeted chromosomal material based upon nucleic acid segment employing a unique sequence high complexity nucleic acid probe of greater than about 40 kb, wherein said targeted chromosomal material is a genetic rearrangement associated with [chromosome 3 and/or] chromosome 17 in humans, said method comprising contacting said chromosomal material with a high complexity nucleic acid probe wherein at least one component of the high complexity nucleic acid probe is targeted to a paracentromeric-specific nucleic acid segment, allowing said probe to bind to said targeted chromosomal material and detecting said bound probe, wherein bound probe is indicative of the presence of target chromosomal material.

material based upon nucleic acid segment employing a unique sequence high complexity nucleic acid probe of greater than about 40 kilobases, wherein said